CHEMISTRY SUMMARISED WORK ORGANIZED BY TEA

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With This ,Assured A+

ELEMENT OF CONSTRUCT TWO

1. **Chemicals for consumers;**
   - ✓ **Medicines**
   - ✓ **Food additives**
   - ✓ **Detergents**
2. **Nuclear reactions**

FOOD ADDITIVES

	Areas of assessment	**product**
a)	**Category of the product**	Food additives ✓*ci* such as preservatives which improve on shelf life ✓*f* of the food,food dyes which improve food appearance by giving it particular attractive ✓*f* colour,enhancers which improve food quality by giving it good quality by giving it a good taste ✓*f* and nice aroma Etc
b)	**Advise ie.** • Challenges/ Dangers for the long-term use of the product • **Evaluation** ie. Give similarities and difference	**Challenges/dangers;** ➢ Some food additives can induce allergic ✓di reactions which affects one's state of health hence discomfort ✓*de* .This can be prevented by only eating food containing food additives one is familiar to ✓*dm* ➢ Some food additives may induce digestive disorders ✓*di* like diarrhoea which affects one's state of health hence discomfort ✓*de*.This can be prevented by only eating food containing food additives one is familiar to ✓*dm* **Similarities;** ➢ both have potential side effects ✓*s* ➢ both improve on the quality of the food ✓*s* **Differences** ➢ synthetic food additives are more effective ✓*d* while natural food additives are less effective

		➢ synthetic food additives have more potential side effects ✓***d*** while natural food additives have less potential side effects

Where;
ci;category identified
f;function of the product
di;danger identified
de;danger explained
dm;danger mitigated
s;similarity
d;difference
References; ACEITEKA 2024 ITEM 1/TEA RESOURCE PAPER SET 2/KASSEC 2024 ITEM 2/ASSEC 2024 ITEM 1/ASSHU 2024 ITEM 1/JJEB 2024 IYTEM 1/UMTA 2024 ITEM 1

NUCLEAR REACTIONS

	Areas of assessment	**Process**
a)	**Category of the process involved**	Nuclear fission ✓ci or nuclear fusion ✓***ci***.Nuclear fission involves the splitting ✓of a heavy nucleus when it is bombarded by a fast moving neutron ✓ to produce lighter nuclei with release /emission of energy ✓ which is used to heat water, ✓***f*** to produce steam at high pressure which drives turbines that produce electricity
b)	**Advise ie.** • Challenges/ Dangers of the process **Evaluation** ie. Give similarities and difference	**Dangers /challenges;** ➢ Nuclear reactions produce dangerous radiations ✓di which when exposed to bodies can cause death ✓de ,destroy organs.This is mitigated by proper use of personal protective equipments ✓***dm*** ➢ Environmental pollution ✓di due to disposal of radioactive wastes which affect different ecosystems like plants ✓de and animals.This can be mitigated through proper disposal of radioactive wastes eg in the underground bankers ✓***dm***. **Similarities;**

		➢ Both produce energy ✓*s* ➢ Both processes take place in the nucleus ✓*s* **Differences;** ➢ Nuclear fission produces less less energy ✓d while nuclear fusion produces more energy ➢ Nuclear fission can be controlled ✓d while nuclear fusion can not be controlled ➢ Nuclear fission involves the splitting of a heavy nuclei into lighter nuclei while nuclear fusion involves joining of lighter nuclei to form heavy nuclei ✓*d*
Where; **ci;category identified** **f;function of the product** **di;danger identified** **de;danger explained** **dm;danger mitigated** **s;similarity** **d;difference** **References; UTEC 2024 ITEM 1/TEA RESOURCE PAPER SET 2**		

DETERGENTS

	Areas of assessment	**Product**
a)	**Category of the product**	Soapy ✓ci detergents for example white star,blue ✓ star /soapless ✓ci detergents for example nomi,omo,magic,sunlight ✓ etc NB. These examples must come from the from the item your responding to Soap molecules has the polar part ✓which is soluble in water and non polar part ✓ which is soluble in the grease/dirt ✓/oil.When the cloth is put in water and soapy/soapless detergent is added,the non polar end dissolves in the grease/oil/dirt and breaks it into tinny ✓ droplets.The polar end dissolves in water to form an emulsion which makes the cloth brighgter ✓*f*.The cloth is then agitated and rinsed several times to take the droplets away ✓

b)	**Advise ie.** • Challenges/ Dangers for the long-term use of the product **Evaluation** ie. Give similarities and difference	Dangers/challenges; ➢ Soapy detergents can not work well with hard water ✓di hence wasted ✓***de***.This can be mitigated by using soapless detergents ✓***dm*** ➢ Water with soapy / soapless detergents if poured in water bodies form a layer ✓di which prevents entry of oxygen which may kill ✓de aquatic animals.This can be mitigated treating the wastes before disposal into the water bodies ✓***dm*** ➢ Some detergents are corrosive ✓di hence can burn ✓de fingers during washing.This can mitigated by wearing gloves or using washing machine ✓***dm*** **Similarities;** ➢ Both are cleaning agents ✓***s*** ➢ Both have polar and non polar ends ✓***s*** **Differences;** ➢ Soapy detergents form scum with hard water while soapless detergents do not form scum with hard water ✓***d*** ➢ Soapy detergents conatin carboxyl group while soapless detergents contain sulphonate group ✓***d***

Where;
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de;danger explained
dm;danger mitigated
s;similarity
d;difference
References; UNEB SAMPLE 2024 ITEM 1/TEA RESOURCE PAPER SET 21/WAKISSHA 2024 ITEM 2/UTEB 2024 ITEM 2/KAMTEC 2024 ITEM 2

MEDICINES

	Areas of assessment	Product
a)	**Category**	Medicines ✓*ci* such as antibiotic medicines which work by killing ✓*f* bacteria or inhibiting/stopping their growth hence relieving their symptoms in the body, analgesics medicines which work by interfering with the pain signals to the brain hence relieving pain ✓*f* ,antacid medicines which react with the acids in the stomach hence reducing the acid level in the stomach ✓*f* NB. Please only mention the products(medicines) from item your responding to
b)	**Advise ie.** • Challenges/ Dangers for the long-term use of the product **Evaluation** ie. Give similarities and difference	**Dangers / challenges;** ➢ Some are acidic ✓*di* and can increase symptoms of ulcers ✓*de* .this can be mitigated by seeking medical advice before of the drug ✓*dm* ➢ Potential risk of overdoze ✓*di* which is fetal ✓*de*.This can be mitigated by only taking dose prescribed by a physician ✓*dm* ➢ Can induce some side effects ✓*di* like allergic reactions ✓*de* .This can be mitigated by consulting a medical personal for full diagnosis before use of the drug ✓*dm* ***Similarities;*** ➢ Both have healing effects ✓*s* ➢ Both have potential side effects ✓*s* ***Difference;*** ➢ Modern medicines are more effective while traditional medicines are less effective ✓*d* ➢ Modern medicines have more potential side effects while traditional medicines have less potential side effects ✓*d*
	Where; **ci;category identified** **f;function of the product** **di;danger identified**	

de;danger explained
dm;danger mitigated
s;similarity
d;difference
References; UTEB 2024 ITEM 1/TEA RESOURCE PAPER SET 17/UNNASE 2024 ITEM 1/ASSHU ANKOLE 2024 ITEM 2/KAMTEC 2024 ITEM 2

ELEMENT OF CONSTRUCT THREE

Using materials ie. Construction,textile,packaging

Reactivity series ie. alloys

Periodic table and trends

Formulae ie. fertilizers

Bonding and structure

Compounds ie. ionic,covalent

Air ie. rusting and combustion

Carbon in life ie. Plastics,polymers,biogas

USING MATERIALS